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Docket No.: CX03009USU(00CXT0291D)  
09/617,587

**AMENDMENTS**

**TO THE DRAWINGS**

Please enter the Replacement Sheet for FIG. 1 attached hereto. Amendments have been made to FIG. 1 as discussed below.

Attachment: Replacement Sheet FIG. 1

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**REMARKS**

**STATUS SUMMARY**

Claims 1-11 are pending in the present application. The Examiner has rejected claims 1-11 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. 5,602,835 of *Farbod et al.* ("*Farbod*") in view of U.S. Patent No. 6,567,482 to *Popovic* ("*Popovic*") and U.S. Patent No. 5,909,436 to *Engstrom et al.* ("*Engstrom*").

These formal matters identified in the Office Action are addressed herein below.

**AMENDMENTS TO CLAIMS AND SPECIFICATION**

In the previous non-final Office action mailed June 20, 2006, the drawings were objected to under 37 C.F.R. § 1.83(a) because every feature of the invention specified in the claims was not shown in the drawings; specifically, the "processing device" recited in claim 1 was not shown in FIG. 1. In response, by Amendment filed October 20, 2006, applicants submitted a Replacement Sheet for FIG. 1 that included a processing device 11, and also amended the partial paragraph on page 4, lines 1-16, of the specification to reflect the changes made to FIG. 1.

The previous non-final Office action mailed June 20, 2006, also stated (on page 2) that in lieu of showing the feature cited in claim 1, *i.e.*, the processing device, in FIG. 1, that feature could be canceled from the appropriate claims.

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Applicants have now elected that alternative, and accordingly, have amended FIG. 1 to remove the processing device numbered 11 added in the amendment filed October 20, 2006, and have also amended claims 1 and 6 to delete the limitations of “a processing device, for processing the digital samples on the basis of an assumed position of the first and second portions in the received signal” and “processing the digital samples on the basis of an assumed position of the first and second portions in the received signal,” respectively.

No new matter has been added by these Amendments.

RESPONSE TO CLAIM REJECTIONS UNDER 35 U.S.C. § 103(a)

The Examiner has rejected claims 1-11 under 35 U.S.C. § 103(a) as being unpatentable under 35 U.S.C. § 103(a) over *Farbod* in view of *Popovic*’ and *Endstrom*. In independent claim 1, as amended, applicants require “a sampler, for taking digital samples of a received signal,” “a plurality of correlators for measuring a first correlation and a second correlation,” and “means for comparing the measured first and second correlations to produce a comparison output.” The “received signal includ[es] at least a first portion and a second portion which repeats the content of the first portion after a repeat interval.” An example of such a received signal is a DVB-T COFDM signal that includes a cyclic prefix to each active signal, which is repeated after a known and fixed active symbol. See *specification*, page 1, lines 13-19. It is appreciated by those skilled in the art that in a Coded Orthogonal Frequency Division Multiplexing (COFDM) modulation scheme, a guard interval is inserted between the COFDM symbols, and a cyclic prefix consisting of

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the end of the COFDM symbol is copied into the guard interval, and the guard interval is then transmitted followed by the COFDM symbol.

The Examiner acknowledges that "*Farbod* in view of *Popovic*" do not explicitly teach the received signal including at least a first and second portions wherein the second portion repeats the content of the first portion after a repeat interval." Page 5, Office action. The Examiner also states, however, as follows:

Engstrom also teaches transmission and reception of random access burst[s] between a mobile station and a base station wherein the random access sequence or burst is transmitted via random access channel repeatedly (note col. 2, line 51 - col. 3, line 8, wherein one skilled in the art at the time the invention was made would further recognize that a repeat interval is included in any consecutive transmission of bursts, otherwise a receiver receiving the burst may not differentiate a first burst from a second burst of the consecutive bursts). Hence, both *Popovic*' and Engstrom teach transmission and reception between a mobile station and a base station using random access bursts, wherein Engstrom further suggests that the random access bursts transmitted repeatedly in order to transmit at a variable transmission power until the base station has acknowledged reception and granting requested access (note col. 3, lines 1-8). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to incorporate the teaching of Engstrom in the system of *Farbod* in view of *Popovic*' by transmitting and receiving consecutive random access bursts for the purpose of repeatedly transmitting at a variable transmission power until the base station has acknowledged reception and granting requested access (note col. 3, lines 1-8).

In general, *Engstrom* teaches a random access protocol system and method for communicating between a mobile station and a base station wherein a random access sequence is cyclically repeated and transmitted in an orthogonal frequency division multiplex (OFDM) format from the mobile station as an uplink transmission. *Abstract*. The purpose of a random access protocol is to facilitate the connection of a plurality of mobile stations to a plurality of base stations upon call initiation or call handover. Col. 2: lines 42-47.

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The random access sequence is preferably cyclically repeated without any guard space between symbols, all other channels bearing modulated data, such as BCH and DICH, preferably include guard spaces between spaces. Col. 3: lines 41-44. A base station preferably responds to a random access sequence transmitted by a mobile station if, and only if, the random access sequence is detected in at least two consecutive frames. Col. 3: lines 48-51.

In other words, the uplink transmission taught by *Endstrom* preferably employs frequency divided orthogonal frequency division multiplex (FD OFDM) (*see* col. 2: lines 58-59), but the random access sequence is preferably cyclically repeated without the guard intervals while the data (information) transmitted over a BCH (broadcast control channel) or a DICH (dedicated information channel) would normally include such guard intervals as that is an important feature of an OFDM modulation scheme.

It is therefore apparent that *Endstrom* does not teach or suggest a system or method that uses a plurality of correlators to process an OFDM-type signal, *i.e.*, a received signal including at least a first portion and a second portion which repeats the content of the first portion after a repeat interval as *Endstrom* expressly states its invention may function without such guard intervals or cyclic prefixes added to the cyclically repeated random access sequences of the invention.

Hence, the prior art references, *i.e.*, *Farbod* in view of *Popovic* and *Endstrom*, when combined do not teach or suggest all the claim limitations of claim 1 in that the combination of references does not teach first and second correlations measured between a first and third group of samples and a second and fourth group of samples, respectively,

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where the samples are derived from a received signal that includes at least a first and a second portion wherein the second portion repeats the content of the first portion after a repeat interval. Accordingly, independent claim 1 is in condition for allowance.

Claim 6, claiming a method of receiving a signal that includes at least a first portion and a second portion that repeats the content of the first portion after a repeat interval and measuring and comparing first and second correlations, and claim 11, claiming a receiver circuit for processing a received signal that includes at least a first portion and a second portion that repeats the content of the first portion after a repeat interval and for calculating an early and a late correlation, are also allowable for the same reasons. Claims 2, 3, 4, and 5 depend directly or indirectly from allowable claim 1, and therefore are distinguishable over *Farbod* combined with *Popovic* and *Endstrom* for at least the same reasons, and claims 7, 8, 9, and 10 depend directly or indirectly from allowable claim 6, and therefore are also distinguishable over *Farbod* combined with *Popovic* and *Endstrom* for at least the same reasons.

In view of the foregoing, applicants respectfully submit that claims 1-11 are patentable under 35 U.S.C. § 103(a) over *Farbod* in view of *Popovic* and *Endstrom*, and respectfully request that the rejection of these claims under 35 U.S.C. § 103(a) be withdrawn.

#### NEW CLAIMS

New claims 12-14 have been added. Claims 12-14 recite features believed to be fully supported by the application as originally filed, and accordingly no new matter is

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believed to have been added. Specifically, support for these new claims may be found, for example, at page 1, lines 17-19, page 4, lines 17-23, page 8, lines 14-16, and elsewhere throughout the specification. As claims 12-14 are dependent on allowable claims 1, 6, and 11, respectively, they are believed to patentable over the prior art of record. Accordingly, applicants respectfully request entry and allowance of new claims 12-14.

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**CONCLUSION**


In light of the above amendments and remarks, it is respectfully submitted that the present application is now in proper condition for allowance, and an early notice to such effect is earnestly solicited.

If any small matter should remain outstanding after the Patent Examiner has had an opportunity to review the above Remarks, the Patent Examiner is respectfully requested to telephone the undersigned patent attorney in order to resolve these matters and avoid the issuance of another Official Action.

Respectfully submitted,  
Douglas R. Pulley et al.

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By:

  
JEFFREY C. WILK  
Registration No. 42,227

**The Eclipse Group LLP**  
10605 Balboa Blvd., Suite 300  
Granada Hills, CA 91344  
Phone: (818) 488-8148  
Fax: (949) 608-3645

Customer No. 34408